Randell Manufacturing, Inc.

OWNERS MANUAL

This manual provides information on installation, operating, maintenance, troubleshooting & replacement parts for

RANSERVE
MODULAR CAFETERIA LINES

NOTIFY CARRIER OF DAMAGE AT ONCE.

It is the responsibility of the consignee to inspect the container upon receipt of same and to determine the possibility of any damage, including concealed damage. Randell suggests that if you are suspicious of damage to make a notation on the delivery receipt. It will be the responsibility of the consignee to file a claim with the carrier. We recommend that you do so at once.

Randell
A DOVER INDUSTRIES COMPANY

520 S. Coldwater Road Weidman, Ml 48893-9683

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TABLE OF CONTENTS

Page 2 ……Congratulations
Page 3 ……..Factory Correspondence
Page 4 ……..Serial Number Location
Page 5 ……...Randell Limited Warranty
Page 8 ……Frequently Asked Questions
Page 9 ……Section I Refrigerated Units
Page 9 ……...Unit Specifications
Page 13 ……..Unit Installation
Page 16 ……Unit Operation
Page 16 ……Preventative Maintenance
Page 18 ……...Troubleshooting
Page 24 ……Replacement Parts
Page 30 ……Section II Hot Food Units
Page 30 ……..Unit Specifications
Page 31 ……..Unit Installation
Page 32 ……Unit Operation
Page 32 ……Preventative Maintenance
Page 33 ……...Troubleshooting
Page 35 ……Replacement Parts
Page 38 ……Section III Serving Equipment
Page 38 ……..Unit Specifications
Page 39 ……Replacement Parts

Congratulations on your recent purchase of Randell food service equipment, and welcome to the growing family of satisfied Randell customers.

Our reputation for superior products is the result of consistent quality craftsmanship. From the earliest stages of product design, to successive steps in fabrication and assembly, rigid standards of excellence are maintained by our staff of designers, engineers, and skilled employees.

Only the finest heavy-duty materials and parts are used in the production of Randell brand equipment. This means that each unit, given proper maintenance, will provide years of trouble free service to its owner.

In addition, all Randell food service equipment is backed by one of the best warranties in the food service industry and by our professional staff of service technicians.

Retain this manual for future reference.

Notice: Due to a continuous program of product improvement, Randell Manufacturing reserves the right to make changes in design and specifications without prior notice.

Notice: Please read the entire manual carefully before installation.

If certain recommended procedures are not followed, warranty claims will be denied.

Model Number	_____	Model Number	_____
Serial Number	_____	Serial Number	_____
Installation Date	_____	Installation Date	_____
Model Number	_____	Model Number	_____
Serial Number	_____	Serial Number	_____
Installation Date	_____	Installation Date	_____
Model Number	_____	Model Number	_____
Serial Number	_____	Serial Number	_____
Installation Date	_____	Installation Date	_____

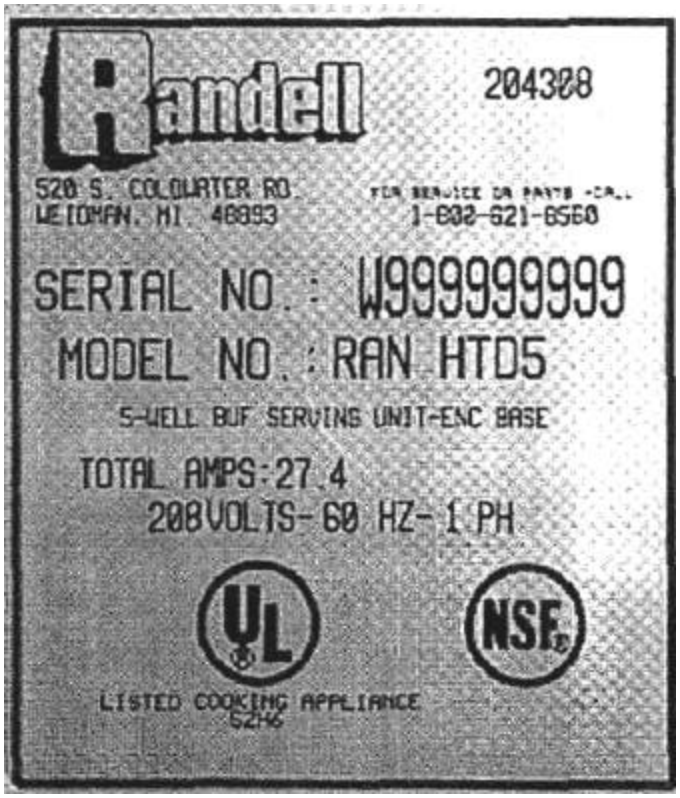
Randell Manufacturing
Service and Parts Hot Line
1-800-621-8560

RANDELL MANUFACTURING

SERIAL NUMBER LOCATION

FOR

RANSERVE EQUIPMENT



This is a sample of a serial number tag

1. The serial number tag on Ranserve refrigerated equipment is located in the mechanical housing.

2. The serial number tag on Ranserve hot food and silverware stand are located on the far left front side of the unit.

3. The serial number tag on Ranserve cashier stands and cold pans are located on the far left side.

Randell Manufacturing, Inc.
Warranty Policies

Parts Warranty

Randell warrants all component parts of manufactured new equipment to be free of defects in material or workmanship, and that the equipment meets or exceeds reasonable industry standards of performance for a period of one year from the date of shipment from any Randell factory, assembly plant or warehouse facility.

Note: Warranties are effective from date of shipment, with a thirty day window to allow for shipment, installation and set up. In the event equipment was shipped to a site other than the final installation site, Randell will warranty for a period of three months following installation, with proof of starting date, up to a maximum of eighteen months from date of purchase.

Component parts warranty does not cover glass breakage or gasket replacement. Randell covers all shipping cost related to component part warranty sent at regular ground rates (UPS, USPS)**. Freight or postage incurred for any express or specialty methods of shipping are the responsibility of the customer.**

Labor Coverage

In the unlikely event a Randell manufactured unit fails due to defects in materials or workmanship within the first ninety days, Randell agrees to pay reasonable labor incurred. During the first ninety days work authorizations are not required for in warranty repairs. However, repair times are limited to certain flex rate schedules and hours will be deducted from service invoices if they exceed allowed times without prior approval and a work authorization number. Warranties are effective from date of shipment, with a 30 day window to allow for shipment, installation and setup.
Where equipment is shipped to any site other than final installation Randell will honor the labor warranty for a period of ninety days following installation with proof of starting date, up to a maximum of nine months from date of purchase. Travel time is limited to one hour each direction or two hours per invoice. **Any travel time exceeding two hours will be the responsibility of the customer.**

Note: Temperature adjustments are not covered under warranty, due to the wide range of ambient conditions.

Five Year Extended Compressor Warranty

United States installations only:
Randell will pay for the replacement compressor only. Freight, labor, refrigerant, handling and all other miscellaneous charges are the responsibility of the customer. Randell will fulfill its warranty obligation by using one of the four methods provided below, which will be selected by the Randell in-house service technician:

1. Provide reimbursement to servicing customer for the cost of the locally obtained replacement compressor in exchange for the return of the defective compressor returned to Randell freight prepaid. Randell does limit the amount of reimbursement allowed and does require a copy of the local supply house bill for replacement compressor.

Customer should not pay servicing agent up front for compressor.

2. Provide repair at the manufacturing facility by requiring that the defective unit be sent back to Randell freight prepaid. Perform repair at the expense of Randell and ship the item back to job location freight collect.
3. Furnish a replacement compressor freight collect in exchange for the return of the defective compressor sent back freight prepaid.
4. Furnish complete condensing unit or replacement package freight collect in exchange for the return of the defective compressor sent back freight prepaid, (decisions based on whether or not to send complete condensing unit will be made by Randell in-house service technician).

Export Warranty

Our export warranties will cover all non electrical parts for the period of one year from the date of shipment to be free of defects in material or workmanship. Electrical parts are also covered if ordered and operated on 60 Hz. Electrical components, ordered and operated on 50 Hz, are warranted for the first 90 days from shipment only. Service labor is covered for the first 90 days with authorization from factory prior to service. Warranty is automatically initiated 60 days from ship date. Inbound costs on any factory supplied items would be the responsibility of the customer. Adherence to recommended equipment maintenance procedures, according to the owners manual provided with each unit, is required for this warranty to remain in effect, and can have a substantial effect on extending the service life of your equipment. Equipment abuse voids any warranty. Extended warranties are not available for parts, labor or compressors on units shipped outside the United States.

Freight Damage

Any and all freight damage that occurs to a Randell piece of equipment as a result of carrier handling is not considered warranty, and is not covered under warranty guidelines. Any freight damage incurred during shipping needs to have a freight claim filed by the receiver with the shipping carrier (note all damages on freight bill at time of delivery) . Internal or concealed damage may fall under Randell's responsibility dependent upon the circumstances surrounding each specific incident and are at the discretion of the Randell in-house service technician.

Gasket Coverage

Randell does not cover gaskets under warranty. Gaskets are a maintenance type component that are subject to daily wear and tear and are the responsibility of the owner of the equipment. Because of the unlimited number of customer related circumstances that can cause gasket failure all gasket replacement issues are considered non-warranty. Randell recommends thorough cleaning of gaskets on a weekly basis with a mild dish soap and warm water. With proper care Randell gaskets can last up to two years, at which time we recommend replacement of all gaskets on the equipment for the best possible performance.

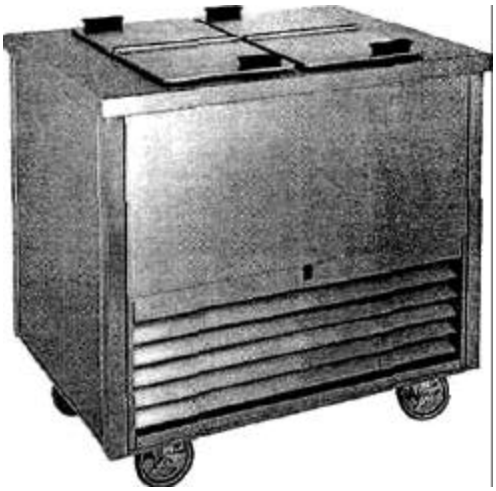
NOTICE: FOOD LOSS IS NOT COVERED UNDER WARRANTY

SECTION I - RANSERVE REFRIGERATED EQUIPMENT

Unit Specifications

For The

Ranserve FRA Series



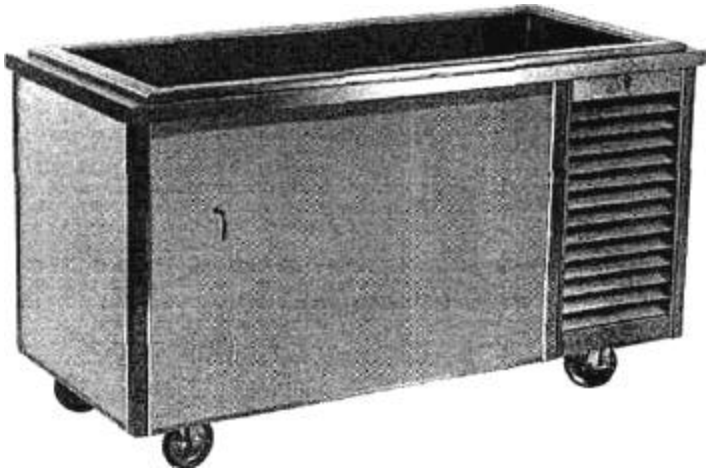
FRA SERIES

MODEL	L	D	H	STORAGE CU. FT.	GALLON CAPACITY	HP	VOLT	AMP	NEMA	SHIP WT.
RAN FRA-1	24"	27"	35"	1.8	6	1/3	115/60/1	6.3	5-15P	200
RAN FRA-2	36"	27"	35"	3.6	12	1/3	115/60/1	6.3	5-15P	230

Unit Specifications

For The

Ranserve SCA Series



SCA Series & SCA "S" SERIES

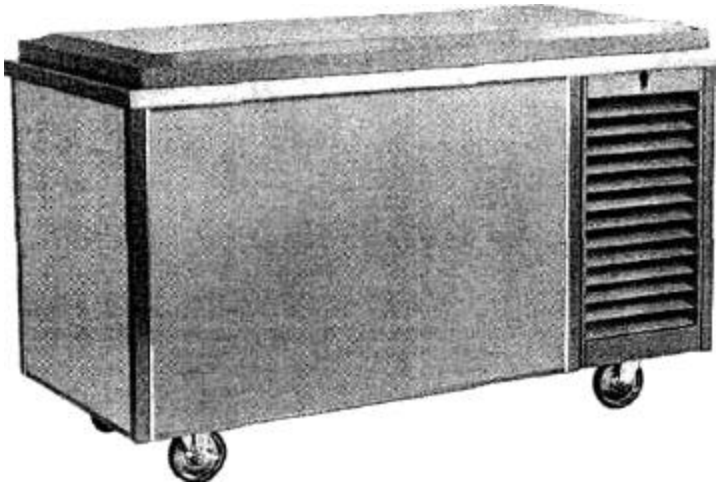
MODEL	L	D	H	12X20 PAN CAPACITY	HP	VOLT/Hz/Ph	AMPS	NEMA	SHIP WT	COLDPAN INTERIOR DIMENSIONS
RAN SCA-3	48"	27"	35"	3	1/3	115/60/1	6.5	5-15P	175	37 7/8" X 19 7/8X6"
RAN SCA-4	60"	27"	35"	4	1/3	115/60/1	6.5	5-15P	215	51 7/8" X 19 7/8X6"
RAN SCA-5	78"	27"	35"	5	1/3	115/60/1	6.5	5-15P	260	66 7/8" X 19 7/8X6"

The "S" series has an open base.

Unit Specifications

For The

Ranserve FTA Series



FTA & FTA "S" Series

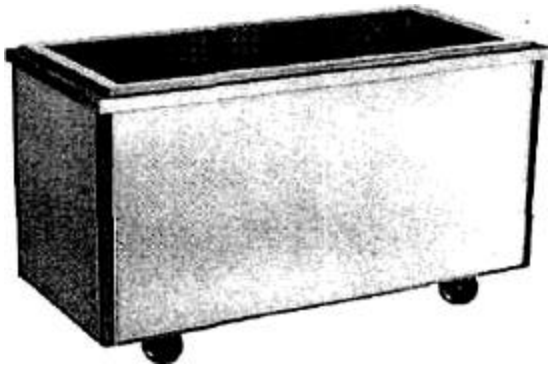
MODEL	L	D	H	HP	VOLT/Hz/Ph	AMPS	NEMA	SHIP WT
RAN FTD-3	48"	27"	35"	1/3	115/60/1	6.5	5-15P	225
RAN FTD-4	60"	27"	35"	1/3	115/60/1	6.5	5-15P	265
RAN FTD-5	78"	27"	35"	1/3	115/60/1	6.5	5-15P	310

The FTA "S" series has an open base.

Unit Specifications

For The

Ranserve IC Series



MODEL	L	D	H	12" X 20" PAN CAPACITY	COLD PAN INTERIOR DIMENSIONS	SHIP WT
RAN IC-3	48"	27"	35"	3	37.875" X 19.875" X 6"	175
RAN IC-4	60"	27"	35"	4	51.875" X 19.875" X 6"	215
RAN IC-5	78"	27"	35"	5	66.875" X 19.875" X 6"	260

"S" Series not shown has the same specifications as standard IC, but with open base below.

Unit Installation

A. Receiving Shipment

Upon arrival, examine the exterior of the shipping crate for signs of abuse. It is advisable that the shipping crate be partially removed, in order to examine the cabinet for any possible concealed damages which might have occurred during shipment. If no damages are evident, replace the crate in order to protect the unit during storage and local delivery. If the unit is damaged, it should be noted on the delivery slip or bill of lading and signed to that effect. A claim must be filed immediately against the carrier indicating the extent and estimated cost of damage occurred.

B. Locating Your New Unit

The following conditions should be considered when selecting a location for your unit:

1. Floor - The area on which the unit will rest must be free of vibration and suitably strong enough to support the combined weights of the unit plus the maximum product load weight, which are provided in the table below:

MODEL	CUBIC FT	FACTOR	WEIGHT POUNDS	TOTAL CAPACITY
RAN FRA-1	1.8	35	200	263
RAN FRA-2	3.6	35	230	356
RAN SCA-3	6	35	175	385
RAN SCA-4	8	35	215	495
RAN SCA-5	10	35	260	610
RAN FTD-3	N/A	N/A	225	225
RAN FTD-4	N/A	N/A	265	265
RAN FTD-5	N/A	N/A	310	310
RAN IC-3	6	35	175	385
RAN IC-4	8	35	215	495
RAN IC-5	10	35	260	610

2. Clearance - There must be a combined total of at least 3" clearance on all sides of the unit.
3. Ventilation - The air cooled self contained unit requires a sufficient amount of cool clean air. Avoid placing the unit near heat generating equipment such as ovens, ranges, heaters, fryers, steam kettles, etc. and out of direct sunlight. Avoid locating the make table in an unheated room or where the room temperature may drop below 55° F or above 90° F.

C. Electrical Supply

The wiring should be done by a qualified electrician in accordance with local electrical codes. A properly wired, and grounded outlet will assure proper operation. Please consult the data plate attached to the compressor to ascertain the correct electrical requirements. Supply voltage and amperage requirements are located on the serial number tag located inside the far left door.

Note: It is important that a voltage reading be made at the compressor motor electrical connections, while the unit is in operation, to verify that the correct voltage required by the compressor is being supplied. Low or high voltage can detrimentally affect operation and thereby void its warranty.

Note: It is important that your unit has its own dedicated line. Condensing units are designed to operate with a voltage fluctuation of plus or minus 10% of the voltage indicated on the unit data plate. Burn out of a condensing unit due to exceeding voltage limits will void the warranty.

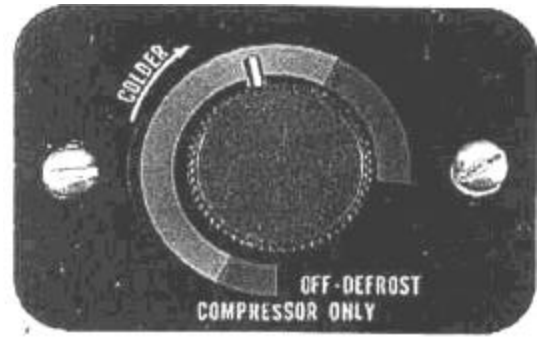
E. Installation Checklist

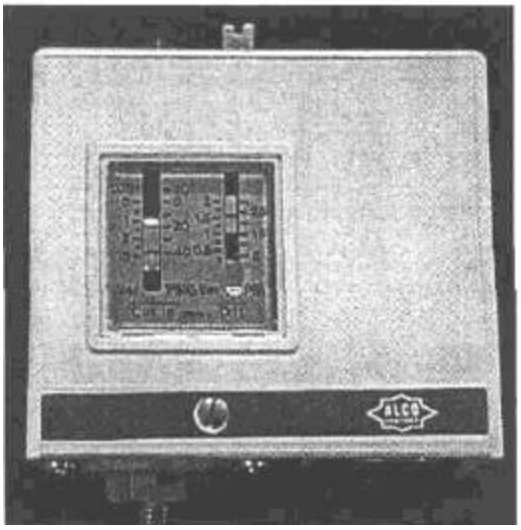
After the final location of the unit has been determined refer to the following checklist prior to start up:

1. Check all exposed refrigeration lines to ensure that they are not kinked, dented or rubbing together.
2. Check that condenser fans rotate freely without striking any stationary members.
3. Unit must be properly leveled.
4. Plug in unit.
5. Turn on cold control located by the compressor.
6. Refer to the front of this manual for serial number location. Please record this information in your manual on page 3 now. It will be necessary when ordering replacement parts or requesting warranty service.
7. Confirm that unit is holding temperature. Set controls to desired temperature for your particular ambient and altitude (See figure A.).
8. Allow your unit to operate for approximately 2 hours before putting in food this allows interior to cool down to storage temperature.

Note: All motors are oiled and sealed.

Figure A - Temperature control adjustments





The control knob allows for temperature adjustments, with in the cabinet only. Turning the knob clockwise will result in increased cooling. Keep the arrow on the knob pointed within the green arc. Turning it clockwise beyond the green can result in freeze-up, while turning it counterclockwise beyond the green will shut the compressor off. If your cabinet temperature remains to warm and your temperature control is at the maximum setting you may need to adjust the pressure control. Your units pressure control should be set at the time of installation by a qualified installation contractor. If minor adjustments are needed at a later date, adjust control by turning the right adjusting screw clockwise (1/4 turn at a time) to a lower number for colder temperature and counterclockwise to a higher number for warmer temperature.

Note: Numbers are pounds of pressure not degrees F.
Note: Do not adjust the differential screw (Left screw).

Unit Operation

Randell has attempted to preset the cold control to ensure that your unit runs at an optimum temperature, but due to varying ambient conditions, including elevation, food product as well as type of operation you may need to alter this temperature. Additional adjustments can be made (within limits) by turning the control dial up or down until the desired temperature is reached. control dial is located next to the compressor (see figure A).

Morning Startup

1. Unit cleaning may be performed at this time.
2. Turn on unit.
3. Allow 45 minutes to one hour for your unit to cool down before loading product.
4. Load the product and proceed with food preparation.

Evening Shut Down

1. Remove product from unit at the end of the day's preparation.
2. Turn off unit.
3. Unit cleaning maybe performed at this time if the frost has melted off the surface.

Preventive Maintenance

Randell strongly suggests a preventive maintenance program which would include the following **Monthly** procedures:

1. Cleaning of all condenser coils. Condenser coils are a critical component in the life of the compressor and must remain clean to assure proper air flow and heat transfer. Failure to maintain this heat transfer will affect unit performance and eventually destroy the compressor. Clean the condenser coils with coil cleaner and/or a vacuum cleaner and brush.

Note: Brush coil in direction of fins, normally vertically as to not damage or restrict air flow from passing through condenser.

2. Clean fan blade on the condensing.
3. Clean and disinfect drains with a solution of warm water and bleach.

NOTE: DO NOT USE SHARP UTENSILS

TABLE 1
Recommended cleaners for your stainless steel include the following:

JOB	CLEANING AGENT	COMMENTS
Routine cleaning	Soap, ammonia, detergent Medallion	Apply with a sponge or cloth
Fingerprints and smears	Arcal 20,Lac-0-Nu,Ecoshine	Provides a barrier film
Stubborn stains and discoloration	Cameo, Talc, Zud, First impression	Rub in the direction of the polish lines
Greasy and fatty acids, blood, burnt-on foods	Easy-Off, De-grease It, Oven aid	Excellent removal on all finishes
Grease and oil	Any good commercial detergent	Apply with a sponge or cloth
Restoration/ Passivation	Benefit, Super Sheen	Good idea monthly

Reference: Nickel Development Institute, DiverseyLever, Savin, Ecolab, NAFEM

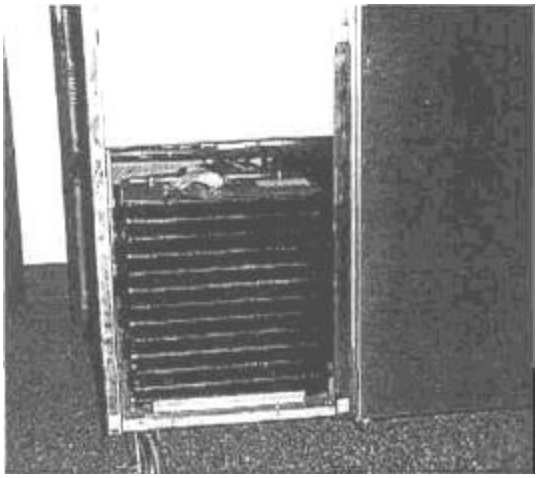
Do not use steel pads, wire brushes, scrapers or chloride cleaners to clean your stainless steel.

CAUTION: DO NOT USE ABRASIVE CLEANING SOLVENTS, NEVER USE HYDROCHLORIC ACID (MURIATIC ACID) ON STAINLESS STEEL.

Proper maintenance of equipment is the ultimate necessity in preventing costly repairs. By evaluating each unit on a regular schedule you can often catch and repair minor problems before they completely disable the unit and become burdensome on your entire operation.

For more information on preventive maintenance consult your local service company or CEFSA member. Most repair companies offer this service at very reasonable rates to allow you the time you need to run your business along with the peace of mind that all your equipment will last throughout its expected life. These services often offer guarantees as well as the flexibility in scheduling of maintenance for your convenience. Randell believes strongly in the products it manufacturers and backs those products with one of the best warranties in the industry. We believe with the proper maintenance and use you will realize a profitable return on your investment and years of satisfied service.

SYMPTOM	POSSIBLE CAUSE	PROCEDURE
UNIT DOESN'T RUN	1. NO POWER TO UNIT.	1. PLUG IN UNIT.
	2. TEMPERATURE CONTROL TURNED OFF.	2. CHECK TEMPERATURE CONTROL.
	3. TEMPERATURE CONTROL FAULTY.	3. TEST TEMPERATURE CONTROL. SEE #4
	4. COMPRESSOR OVERHEATED.	4. CLEAN CONDENSER COIL. SEE#1
	5. CONDENSER FAN FAULTY.	5. SERVICE CONDENSER FAN MOTOR SEE #4
	6. OVERLOAD PROTECTOR FAULTY.	6. TEST OVERLOAD. SEE #6
	7. COMPRESSOR RELAY FAULTY.	7. TEST RELAY. SEE #6
	8. COMPRESSOR FAULTY.	8. CALL FOR SERVICE AT 1-800-621-8560.
UNIT SHORT CYCLES	1. CONDENSER COIL DIRTY.	1. CLEAN COIL. SEE#1
	2. CONDENSER FAN FAULTY.	2. SERVICE FAN AND MOTOR. SEE #4
	3. COMPRESSOR FAULTY.	3. CALL FOR SERVICE AT 1-800-621-8560.
	4. OVERLOAD REPEATEDLY TRIPPING.	4. CHECK OUTLET VOLTAGE.
UNIT RUNS CONSTANTLY	1. CONDENSER COIL DIRTY.	1. CLEAN COIL. SEE#1
	4. CONDENSER FAN FAULTY.	4. SERVICE CONDENSER MOTOR. SEE #4
UNIT NOT COLD ENOUGH	1. TEMPERATURE CONTROL SET TOO HIGH.	1. LOWER SETTING.
	2. TEMPERATURE CONTROL FAULTY.	2. TEST CONTROL. SEE #4
	3. CONDENSER COIL DIRTY.	3. CLEAN COIL. SEE#1
	8. REFRIGERANT LEAKING OR CONTAMINATED.	8. CALL FOR SERVICE AT 1-800-621-8560.
UNIT TOO COLD	1 TEMPERATURE CONTROL SET TOO LOW.	1. ADJUST CONTROL.
	2. TEMPERATURE CONTROL FAULTY.	2. TEST CONTROL. SEE #4
UNIT NOISY	1. COMPRESSOR MOUNTINGS LOOSE OR HARDENED.	1. TIGHTEN OR REPLACE COMPRESSOR MOUNTINGS.
	2. CONDENSER FAN DAMAGED OR HITTING FAN SHROUD.	2. INSPECT CONDENSER FAN. SEE # 9



1. Cleaning condenser coil.

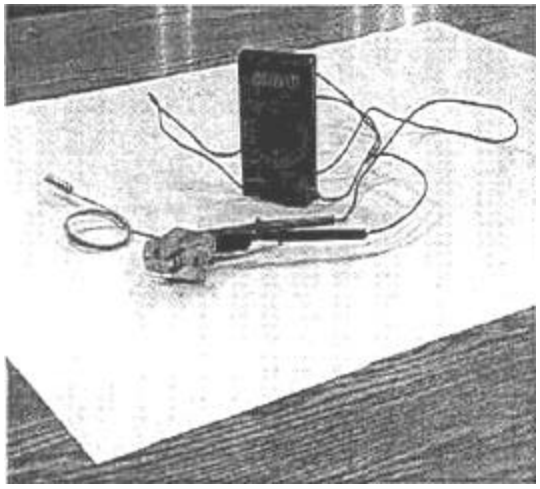
An accumulation of dirt and dust prevents the condenser coil from removing heat, making your unit cool poorly, run constantly, or even stop completely if the compressor overheats. Clean coil using a vacuum cleaner with a wand attachment. If the coil is greasy, wash it with warm soapy water and a bristle brush, taking care not to drip water on other parts of your unit.

2. Cleaning drain.

Clean the drain using an oven baster to force a solution of hot water and baking soda or bleach into the opening.

3. Testing and replacing the temperature control.

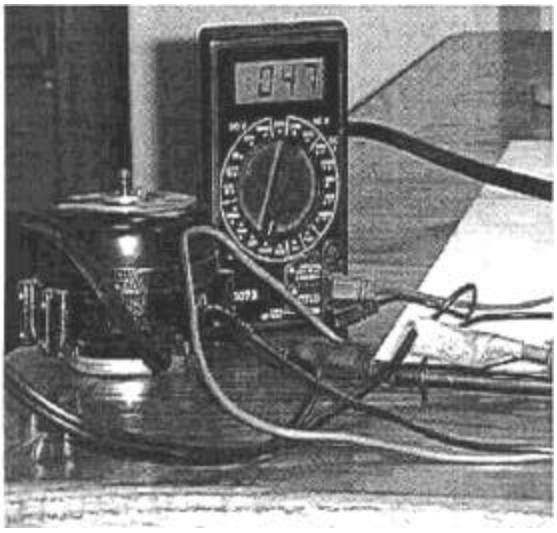
Unplug the unit and remove the temperature control knob. Remove the screws securing the fan shroud to the evaporator coil assembly, next remove the screws securing the temperature control to the fan shroud. Taking care not to bend the capillary line, pull off the wire connectors. Now you are ready to test for continuity.



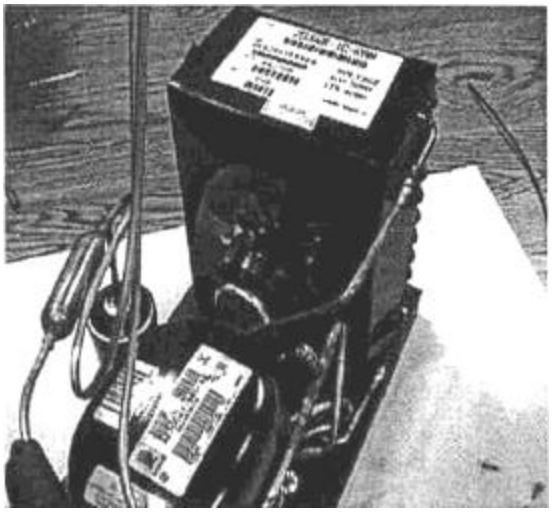
Set your multimeter at RX1, Touch a probe to each terminal. With the control at its the tester should indicate a closed circuit. Turn off the control then retest; the tester should indicate an open circuit. To install a new temperature control, pull the capillary line of the old control out of its opening. Set the new control to its coldest setting and carefully thread the capillary line into the opening without kinking it. Attach the wires to the terminals, screw the control in place and reattach the dial.

4. Servicing the condenser fan.

Inspect the condenser fan motor by removing the mechanical housing cover to gain access. Unplug the unit. Clean the fan blade, and turn it to see if the blade rotates freely. If the motor binds, replace it. If the blade is damaged, unscrew the nut that holds it to the motor shaft and pull it off. Install a new fan blade, replacing any washers, and tighten the nut.

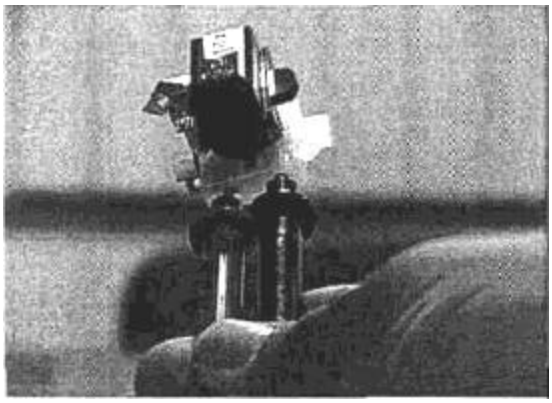


To test the condenser fan motor disconnect the wires to the fan motor. Set a multimeter at RX10 and touch one probe to each terminal. The multimeter needle should show approximately 45 to 50 ohms resistance; a lower reading means the motor is faulty. Next set the meter at RX1000 and touch one probe to the motor terminals and the other one to any unpainted metal part of the unit. If the meter needle moves, the motor is grounded and should be replaced. To remove the motor unscrew the bracket that holds the fan motor to its housing, slide the motor out of the housing. Remove the fan blade from the old motor and attach it to the new motor, replacing any washers. Install the new motor in its housing by screwing the bracket in place. Reattach the wires to the motor terminals.



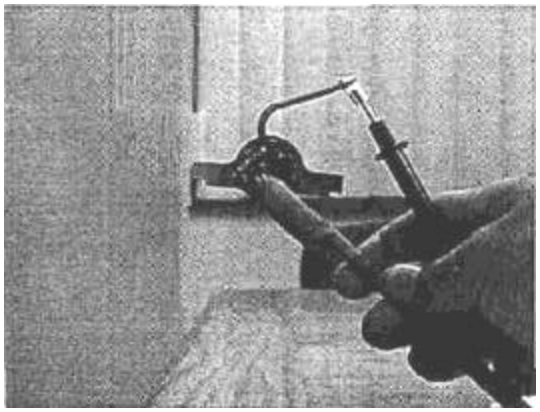
5. Servicing the compressor.

The compressor is part of the sealed refrigeration system and should be replaced by a professional service technician. You can, however, test the compressor and certain components. Unplug the unit and remove the access cover to the mechanical housing. A small box mounted on the side of the compressor protects the relay, overload protector and capacitor. Release the wire retaining clip that holds the cover in place and slip off the cover and the clip.

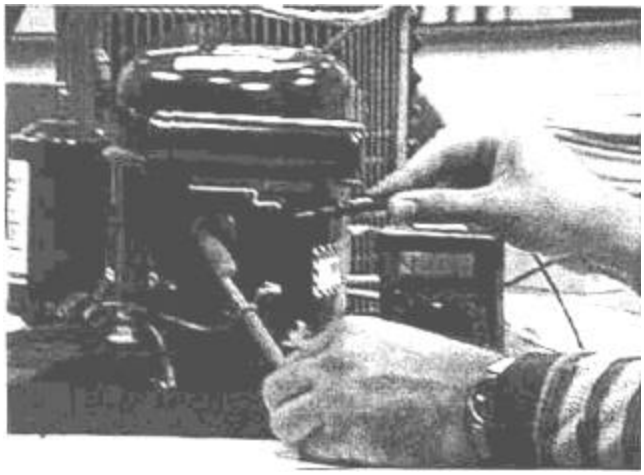


6. To test the compressor relay pull the relay straight off the compressor without twisting it. If the relay has an external wire coil, hold the relay so that the word top is up. Set the multimeter at RX1 and place the probes on the terminals S and M. the multimeter needle should not move. Next remove the probe from M and place it on the side terminal marked L. once again, the needle should not move. Finally, remove the probe from S and place it on M. the needle should sweep across the scale, showing full continuity. Now turn the relay upside down and perform the same tests. You should get the opposite results: continuity between terminals S and M and between S and L; no continuity between M and L. if the relay fails any of these tests, replace it: push the new relay onto the compressor terminals and replace the terminal cover. If the relay passes these tests, test the overload protector.

7. To remove the overload protector use a screwdriver to gently pry open the circular spring clip that secures the overload protector to the compressor and snap out the protector. Pull the two wire connectors off their terminals.

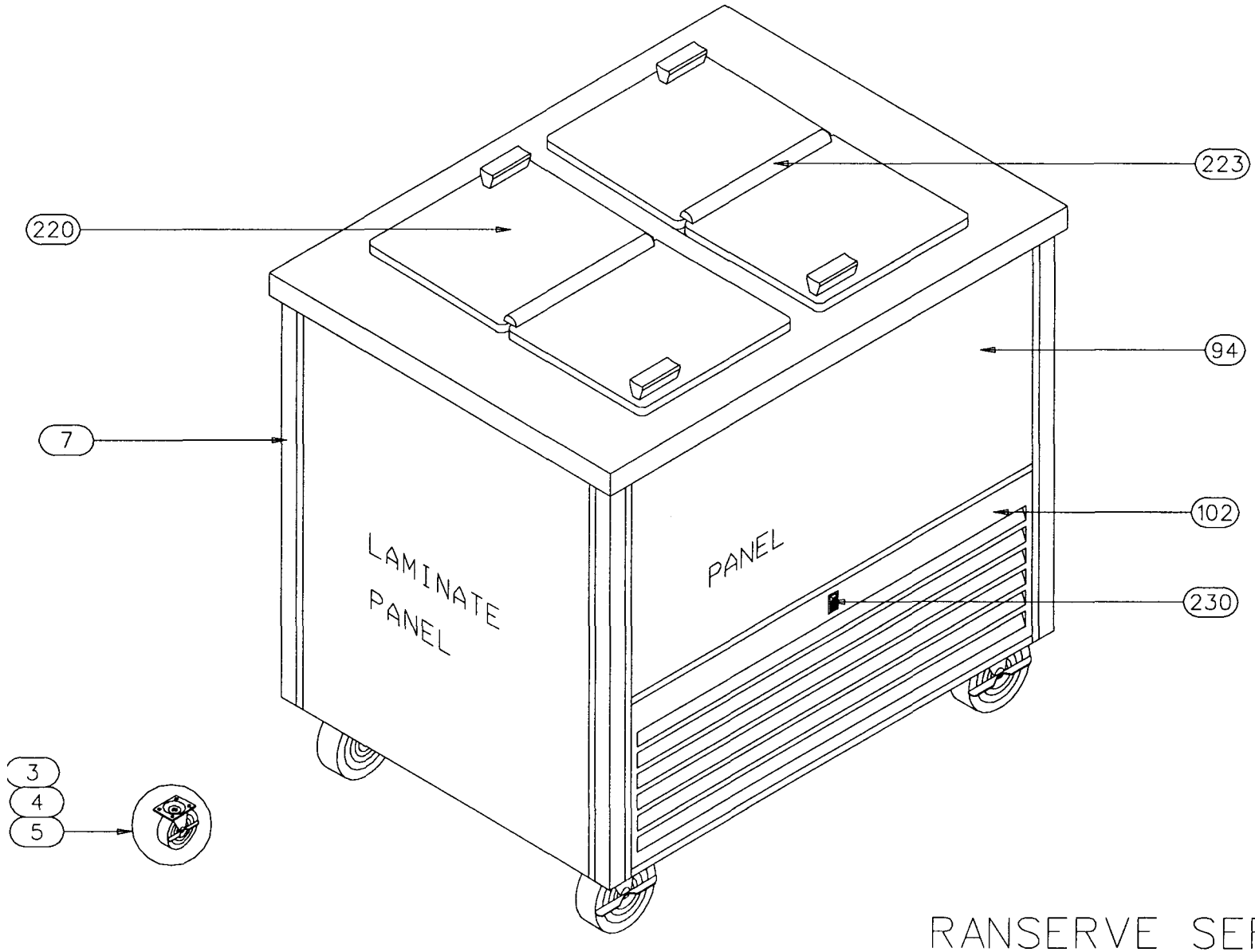


8. To test set a multimeter at RX1 and touch a probe to each overload protector terminal. The multimeter needle should sweep across the scale, showing full continuity. If the overload protector passes this test, test the compressor. If not replace the overload protector. Reattach the push-on connectors to the new overload protector, clip it in place on the compressor and replace the terminal cover.



9. To test the compressor set a multimeter at RX1, test each of the three terminal pins against each of the other two. Each pair should show continuity. Then, with the multimeter set at RX1000, place one probe against the metal housing of the compressor; if necessary, scrape off a little paint to ensure contact with bare metal. Place the other probe on each of the three terminals in turn. If any of the three terminals shoes continuity with the housing, the compressor is grounded. If the compressor fails either test, call for service. If it passes the tests, reinstall the overload protector, relay, terminal cover and mechanical housing cover.

RANSERVE SERIES						
ITEM	**DESCRIPTION**	**PART#**	**COLD**	**FROST**	**FREEZER**	**IC**
3	CASTER SET	001450	x	x	x	x
4	NON LOCKING CASTER	HD CST3050	x	x	x	x
5	LOCKING CASTER	HD CST3051	x	x	x	x
7	STAINLESS STEEL PANEL, SPECIFY DIMENSIONS	RP PNL001	x	x	x	x
17	POWER CORD	ELWIR461	x	x	x	x
102	LOUVER	RP LVRSCF	x	x		
102A	LOUVER	RP LVRFRA			x	
108	EXPANSION VALVE	RFVLV134A18Z	x			
108	EXPANSION VALVE	RF VLV408		x		
109	MALE POWER CORD	EL WIR469	x	x	x	
110	FEMALE POWER CORD	EL WIR471	x	x	x	
112	CAP TUBE .042 120"	RF CAP003			x	
116	THERMOSTAT RANCO	HDCNT100		x	x	
116A	THERMOSTAT HIGH TEMP ADJ. RANGE	HD CNT225	x			
117	PRESSURE CONTROL DUAL	HD CNT725		x		
121	ACCUMULATOR	RF ACM005	x		x	
130	CONDENSING UNIT, AEA2410YX	RF CON495	x			
130A	CONDENSING UNIT, AEA2413Z	RF CON254		x		
131	COMPRESSOR	RF CMP495	x			
131A	COMPRESSOR	RF CMP031		x	x	
134	START COMPONENTS	RF STR495	x	x		
134A	START COMPONENTS	RF STR254			x	
135	RECEIVER TANK	RF TNK254		x		
136	CONDENSER COIL	RF COI495	x			
136	CONDENSER COIL	RF COI254		x	x	
137	CONDENSER FAN W\BLADE	RF FAN001	x	x	x	
138	CONDENSE FAN BLADE ONLY	RF FAN495	x	x	x	
140	FILTER DRIER	RF FLT250A	x	x	x	x
141	CONDENSATE EVAP PAN	RP PAN RAN	x	x	x	
210	ADAPTER BAR	RP BAR020	x			x
220	COVER, INSULATED HINGED	HDLID111			x	
223	HINGE, INSULATED COVER	HD LID001			x	
230	ROCKER SWITCH	EL SWT200	x	x	x	
231	COLD PAN DRAIN 1" BRASS	HDDRN100	x			
233	INSERTS, PERFORATED	RP INS001				
232	COLD PAN DRAIN SCREEN	RP DSC001	x			
316	HANDLE, EXTENDED BALL VALVE	RP HDLHTD				
614	DRAIN VALVE 1" BALL VALVE	PB VLV650	x			



RANSERVE SERIES
FREEZER

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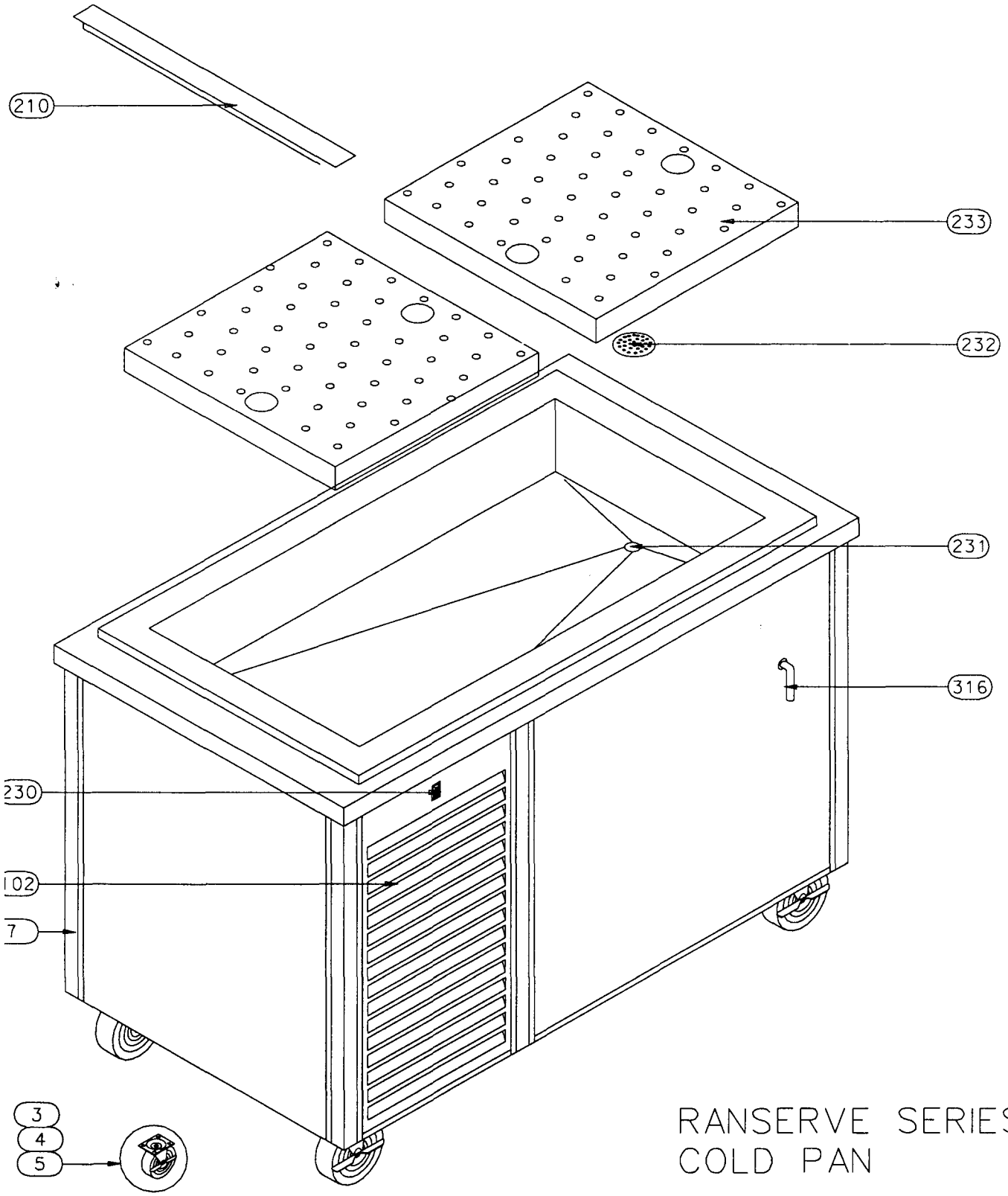
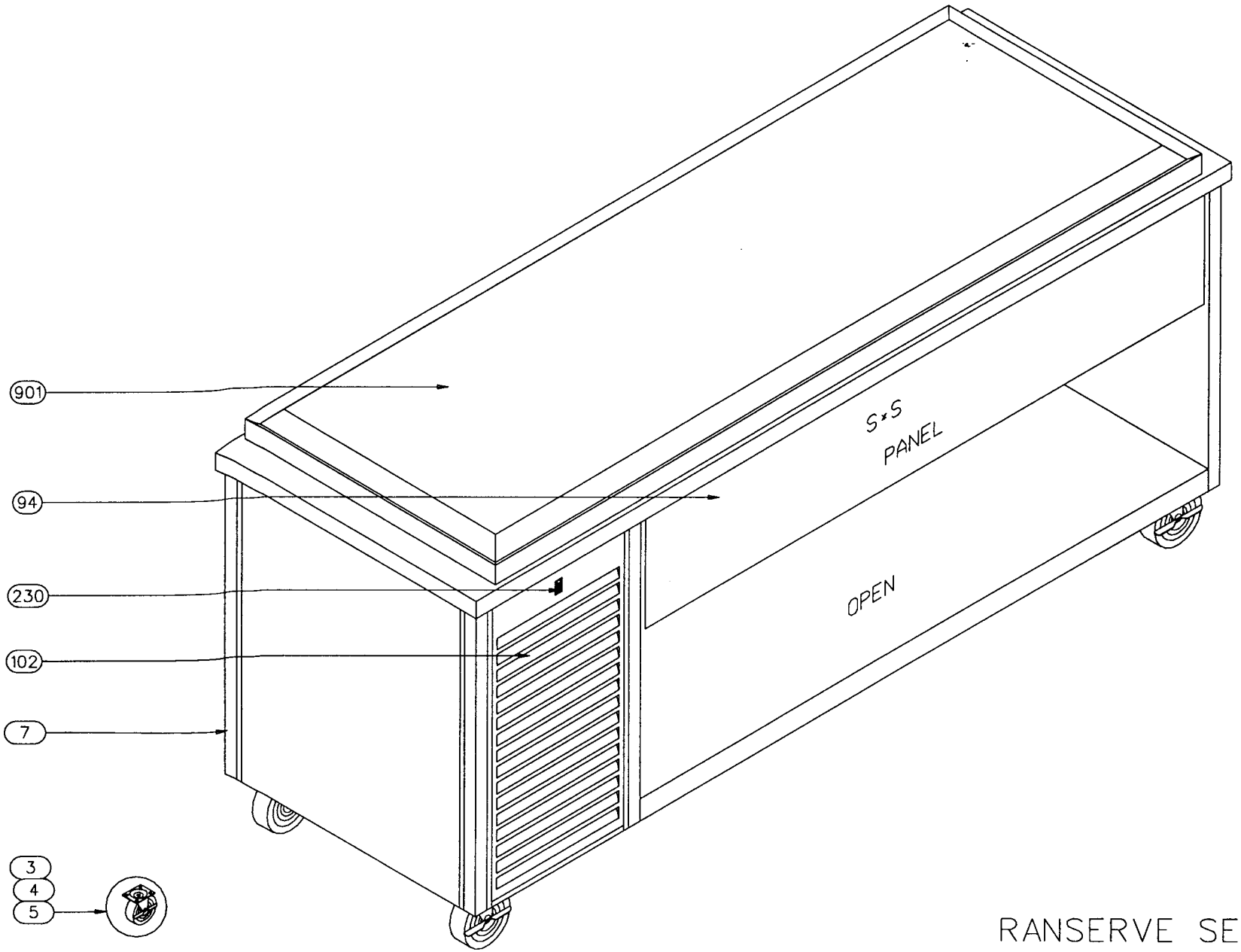
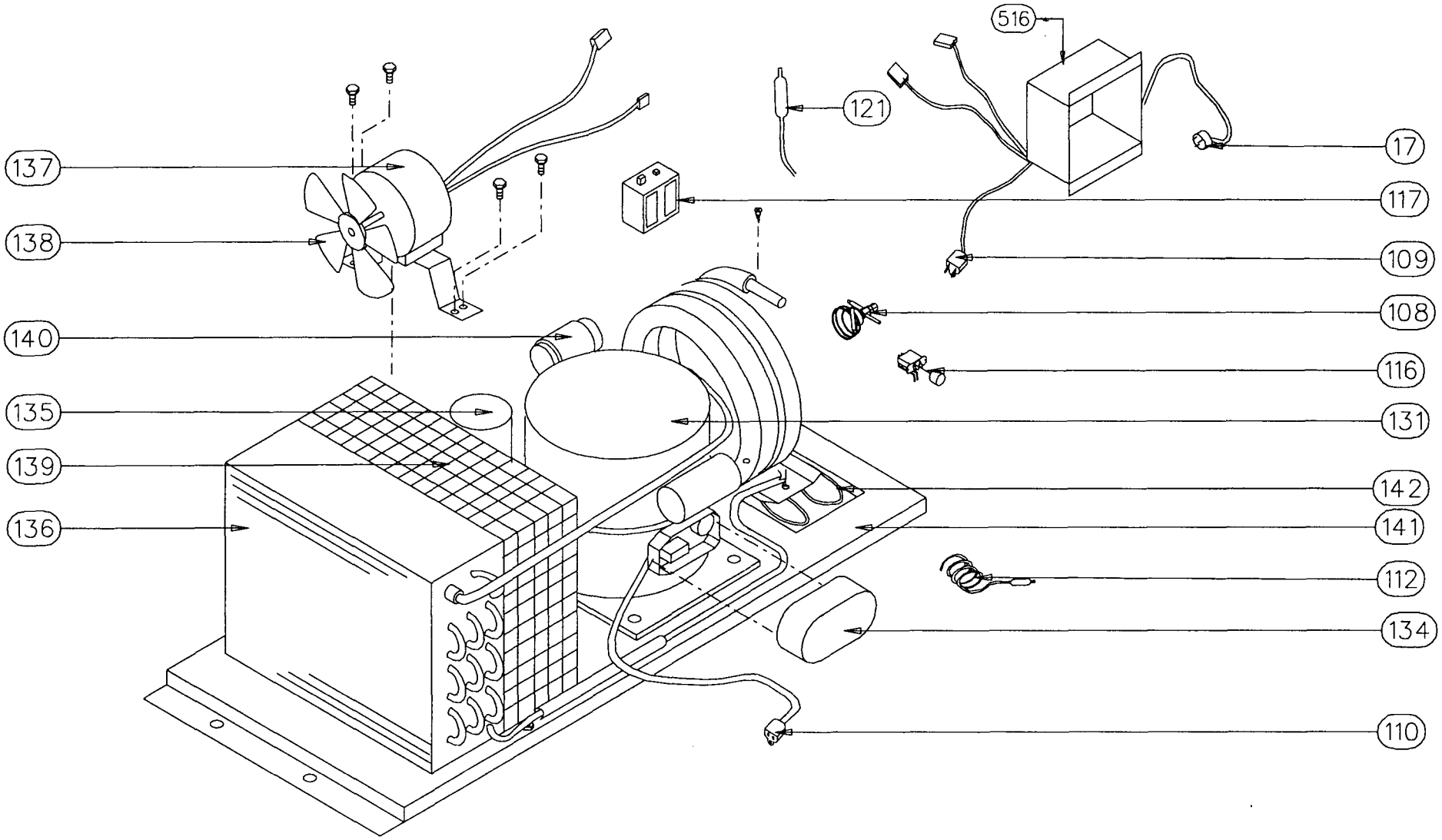


RANSERVE SERIES
COLD PAN



RANSERVE SERIES
FROST TOP



130 CONDENSING UNIT

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MODEL RANSERVE SERIES
REFRIGERATOR PARTS DIAGRAM

SECTION II - RANSERVE HOTFOOD EQUIPMENT

Unit Specifications

For The

Ranserve HTD Series

HTD SERIES

MODEL	L	D	H	SHIP WT.
RAN HTD-2	30"	27"	35"	175
RAN HTD-3	48"	27"	35"	215
RAN HTD-4	60"	27"	35"	260
RAN HTD-5	72"	27"	35"	325
RAN HTD-2 B	30"	27"	35"	175
RAN HTD-3B	48"	27	35"	215
RAN HTD-4B	60"	27	35"	260
RAN HTD-5B	72"	27	35"	325

MODEL	#OF WELLS	# OF ELEMENTS	120V			208V			240V		
			kW	AMP	NEMA	kW	AMP	NEMA	kW	AMP	NEMA
RAN HTD-2	2	2	2.2	18.4	5-30P	2.2	10.6	6-15P	2.2	9.2	6-15P
RAN HTD-3	3	3	3.3	27.6	5-50P	3.3	15.9	6-20P	3.3	13.8	6-20P
RAN HTD-4	4	4	4.4	36.8	5-50P	4.4	21.2	6-30P	4.4	18.4	6-30P
RAN HTD-5	5	5	5.5	46	N/A	5.5	27.5	6-50P	5.5	23	6-30P
RAN HTD-2B	2	3	3.3	27.6	5-50P	3.3	15.9	6-20P	3.3	13.8	6-20P
RAN HTD-3B	3	4	4.4	36.8	5-50P	4.4	21.2	6-30P	4.4	18.4	6-30P
RAN HTD-4B	4	5	5.5	46	N/A	5.5	27.5	6-50P	5.5	23	6-30P
RAN HTD-5B	5	6	N/A	N/A	N/A	6.6	31.7	6-50P	6.6	27.5	6-50P

“S" series not shown has the same specifications as standard HTD.

Unit Installation

A. Receiving Shipment

Upon arrival, examine the exterior of the shipping crate for signs of abuse. It is advisable that the shipping crate be partially removed, in order to examine the unit for any possible concealed damages which might have occurred during shipment. If no damages are evident, replace the crate in order to protect the unit during local delivery. If the unit is damaged, it should be noted on the delivery slip or bill of lading and signed to that effect. A claim must be filed immediately against the carrier indicating extent and estimated cost of damage incurred.

B. Electrical Supply - The wiring should be done by a qualified electrician in accordance with local electrical codes. A properly wired, and grounded outlet will assure proper operation. Please consult the data plate to ascertain the correct electrical requirements. Supply voltage requirements are on the unit serial number tag.

Note: It is important to verify that the correct voltage. Supplying the incorrect voltage can detrimentally affect the unit and thereby void its warranty.

Note: It is important that your unit have its own dedicated line; hot food holding units are designed to operate with a voltage fluctuation of plus or minus 10% of the voltage indicated on the unit data plate. Burnout of electrical components due to exceeding voltage limits will void the warranty.

Warning: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual for assistance or consult a qualified installer, service agency, or dealer.

Unit Operation

All units are designed for 145 to 175° operation or 140 to 170° product temperature. When using the unit dry expect at least a 15° drop in product temperatures compared to using it wet. Hot food tables may be operated utilizing water or dry. However wet operation is usually recommended for higher efficiency.

Plumbing: The units drain must have an outlet to an appropriate drainage area or container.

Note: Drains must be plumbed to all applicable local code requirements.

Caution: Moisture collecting from improper drainage can create a slippery surface on the floor and a hazard to employees. When making electrical connections refer to the amperage data listed on the units data plate. Your local code or the national electrical code handbook to be sure the unit is connected to the proper power source.

Preventive Maintenance

Randell strongly suggests a preventive maintenance program which would include the following monthly procedures:

1. Clean your hot food table with a solution of warm water and a mild detergent. The stainless steel portions of your unit can be polished with any quality polish.

2. Drain water from wells daily and wipe them out. Clean wells thoroughly twice a week to help insure a longer life for your wells.

3. Visually check the color of the burner flames every 6 months. To adjust the flow of air to the burner, loosen the Phillips head screw and rotate the shutter to allow more or less air into the burner tube as needed. The flames should burn steady with approximately 1" blue cones and should not extend out over the edges of the pan diverter.

Note: Do not use chemicals, steel wool or scrapers to clean unit

CAUTION: DO NOT USE ABRASIVE CLEANING SOLVENTS.

NOTE: FOR MORE INFORMATION ON CLEANING YOUR HOTFOOD UNIT SEE TABLE 1.

Proper maintenance of equipment is the ultimate necessity in preventing costly repairs. By evaluating each unit on a regular schedule you can often catch and repair minor problems before they completely disable the unit and become burdensome on your entire operation.

For more information on preventive maintenance consult your local service company. Most repair companies offer this service at very reasonable rates to allow you the time you need to run your business along with the piece of mind that all your equipment will last throughout its expected life. These services often offer guarantees as well as the flexibility in scheduling of maintenance for your convenience.

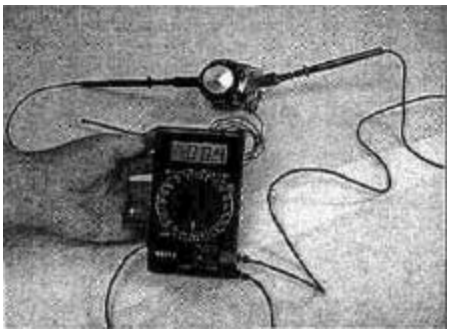
Randell believes strongly in the products it manufactures, and backs those products with one of the best warranties in the industry. We believe with proper maintenance and use you will realize a profitable return on your investment and years of satisfied service.

Troubleshooting

Electrical:

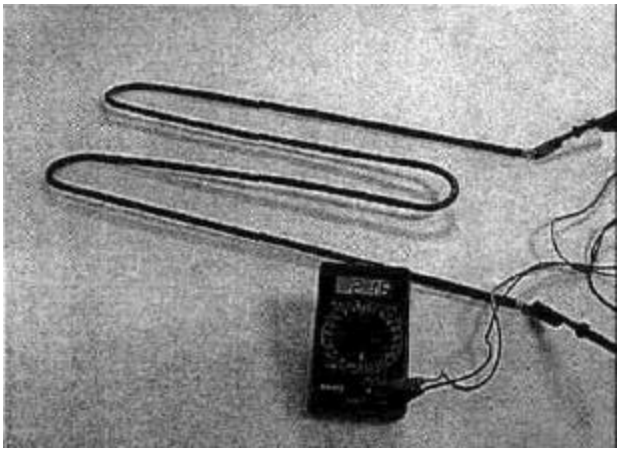
PROBLEM	POSSIBLE CAUSE	REMEDY
Unit will not heat.	1. Thermostat off.	1. Turn on thermostat.
	2. Unit unplugged.	2. Plug in unit.
	3. Circuit breaker tripped.	3. Reset or replace circuit breaker.
	4. Thermostat defective.	4. Test and/or replace thermostat see fig. 1.
	5. Unknown.	5. Call 1-800-621-8560 for service agency.
Individual well will not heat.	1. Thermostat off.	1. Turn on thermostat.
	2. Thermostat defective.	2. Test and/or replace thermostat see fig. 1
	3. Defective element.	3. Test and/or replace element.
	4. Unknown.	4. Call 1-800-621-8560 for service agency

Figure 1



Set your multimeter at RX1, Touch a probe to each terminal. With the control at its Coldest setting, the tester should indicate a closed circuit. Turn off the control then retest; the tester should indicate an open circuit. To install a new temperature control, pull the capillary line of the old control out of its opening. Set the new control to its Coldest setting and carefully thread the capillary line into the opening without kinking it. Attach the wires to the terminals, screw the control in place and reattach the dial.

Figure 2

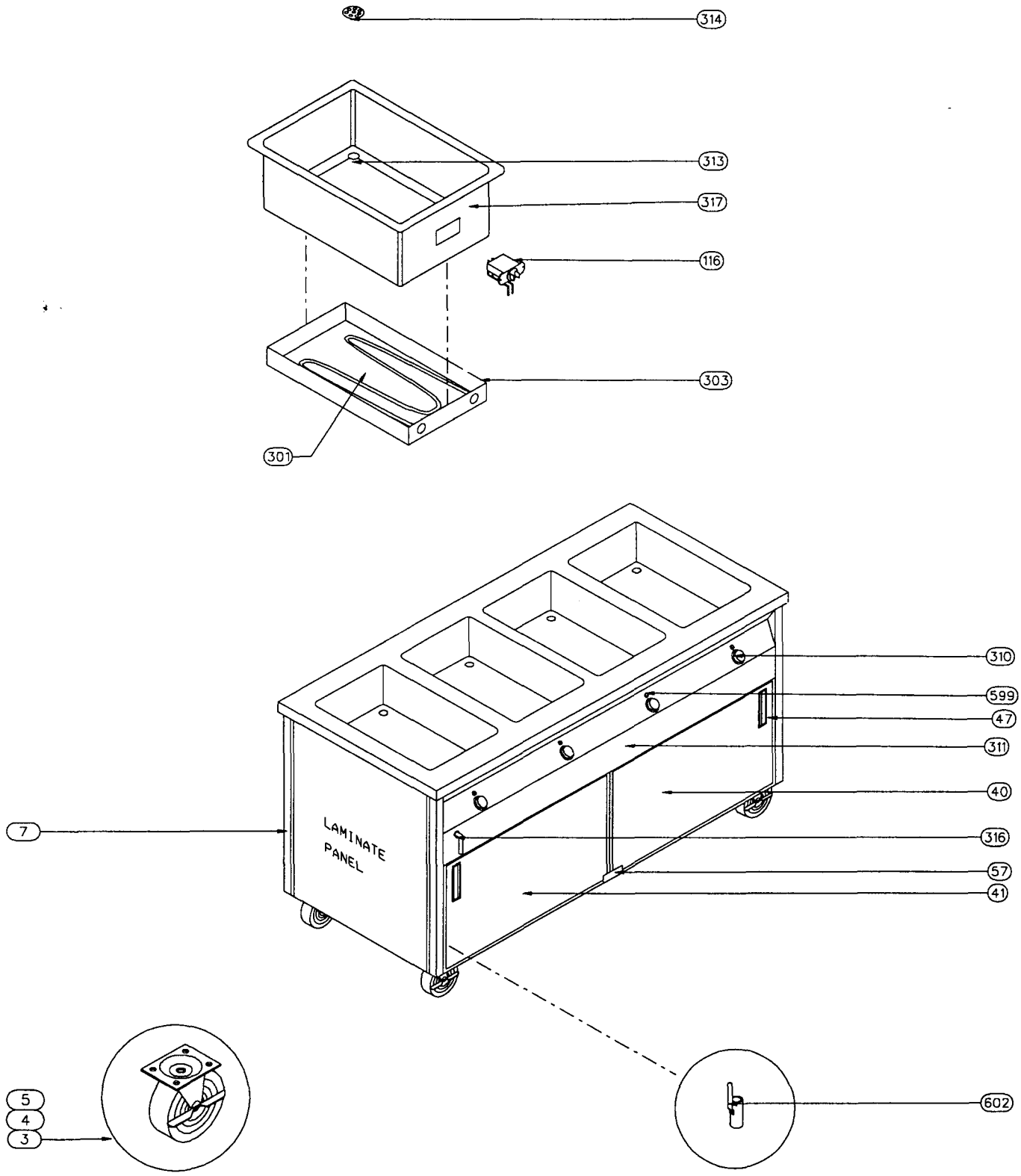


Testing the element.
Unplug the unit. Pull the wires from the terminal ends of the element. Set the multimeter at RX1 and attach a probe to each terminal end. The meter should show medium resistance. If not replace the element.

Figure 3

Testing the element for ground.
Unplug the unit. Pull the wires from the terminal ends of the element. Set the multimeter at RX1 and attach one probe to one terminal end and the other to the metal sheath of the element; The meter needle should not move. If the needle moves replace the element.

RANSERVE SERIES HOTFOOD		
ITEM	**DESCRIPTION**	**PART#**
3	CASTER SET	001450
4	NON LOCKING CASTER	HD CST3050
5	LOCKING CASTER	HD CST3051
7	STAINLESS STEEL PANEL, SPECIFY DIMENSIONS	RP PNL001
17	POWER CORD W/PLUG SPECIFY VOLTAGE & WATTAGE	EL WIRSPC
40	DOOR RIGHT HAND	RP DORHTDR
41	DOOR LEFT HAND	RP DORHTDL
44	GASKET, 15" X 15 3/8"	IN GSK149
44A	GASKET, 15" X 27 3/8"	INGSK153
46	HINGE ASSEMBLY DOOR	HD HNG300
47	HANDLE RECESSED, DOOR	HDHDL1012
49	LOCK W/KEY	HD LCK0490
57	SLIDING DOOR TRACK, GUIDE	RP GDE001
116	THERMOSTAT	EL HFT230
301	HEATING ELEMENT, 120V 1100W	ELELM1100
301A	HEATING ELEMENT, 208V 1100W	ELELM1172
301B	HEATING ELEMENT, 240V 1100W	ELELM1124
301C	STRIP HEATER OGDEN 1000W, 240V	EL HTR750
303	ELEMENT PAN	RP PANHTD
310	CONTROL KNOB	HD CNT230
314	HFW DRAIN SCREEN	RP SCN001
316	EXTENDED BALL VALVE HANDLE	RP HDLHTD
599	INDICATOR LIGHT	EL LGT500
602	BALL VALVE	PB VLV650
721	SPRING	HDSPR017



721 DOOR SPRING
OPT. HINGED DOOR
AND GASKET NOT SHOWN

RANSERVE SERIES
HOT FOOD TABLE

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SECTION III - RANSERVE SERVING EQUIPMENT

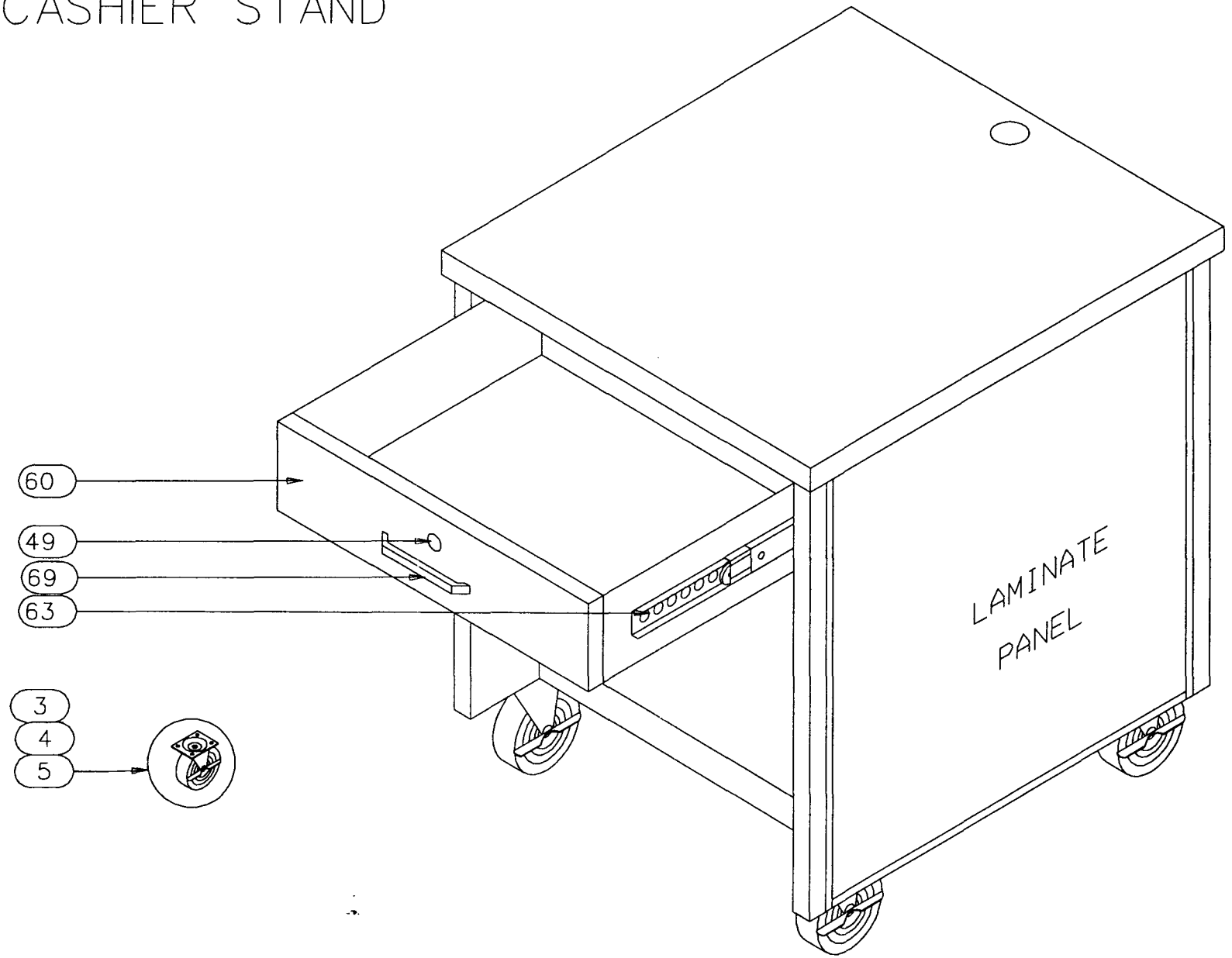
Unit Specifications
For The
Ranserve Serving Equipment
&
COUNTER PROTECTORS

SERVING EQUIPMENT

MODEL	L	D	H	NUMBER OF 5.25" DIA. VERTICAL SILVERWARE BINS	SHIP WT.
RAN CA	30"	27"	35"	N/A	135
RAN SW-8	30"	27"	35"	8	110
RAN SW-12	36"	27"	35"	12	120
RAN ST-2	24"	27"	35"	N/A	100
RAN ST-3	36"	27"	35"	N/A	125
RAN ST-4	48"	27"	35"	N/A	150
RAN ST-5	60"	27"	35"	N/A	175
RAN ST-6	72"	27"	35"	N/A	200

RANSERVE SERIES						
ITEM	**DESCRIPTION**	**PARTS**	**CASHIER STAND**	**COUNTER PROTECTOR**	**S/S WORK**	**TRAY& SILVER**
3	CASTOR SET	001450	X		X	X
4	NON LOCKING CASTOR	HD CST 3051	X		X	X
5	LOCKING CASTOR	HD CST 3050	X		X	X
7	STAINLESS STEEL PANEL, SPECIFY DIMENSIONS	RP PNL001	X		X	X
27	PERFORATED SILVERWARE INSERT	HDINS100				X
27A	SILVERWARE INSERT PAN	HD PAN01Y				X
49	LOCK ASSY, DRAWER	HD LCK505	X			
60	DRAWER ASSEMBLY	RPDWR1CA	X			
63	DRAWER TRACK, S35-1020	HD TRK 004	X			
69	HANDLE, DRAWER 4"	HD HDL010	X			
94	LAMINATE PANEL, SPECIFY DIMENSIONS, MFG OF LAMINATE, COLOR AND COLOR CODE	RP PNL002	X		X	X
407	GLASS W/FRAME, SPECIFY DIMENSIONS	HD GLS001		X		
411	COUNTER PROTECTOR FRAME WORK, SPECIFY PARTICULAR MODEL OR TYPE	RP FRM001		X		
412	BRACKET ADJ. SNEEZEGUARD	HDBRK215		X		

RANSERVE SERIES
CASHIER STAND



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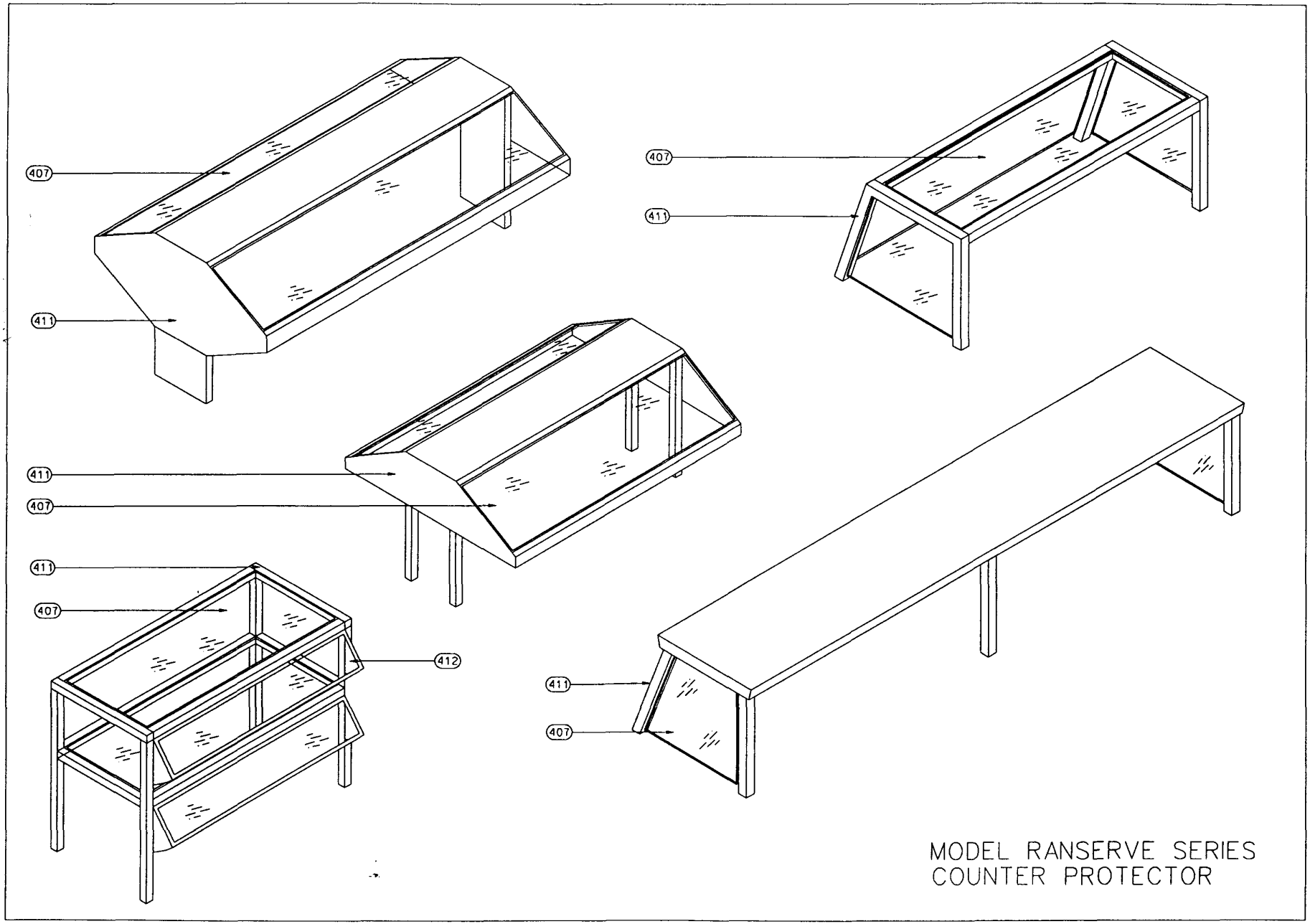
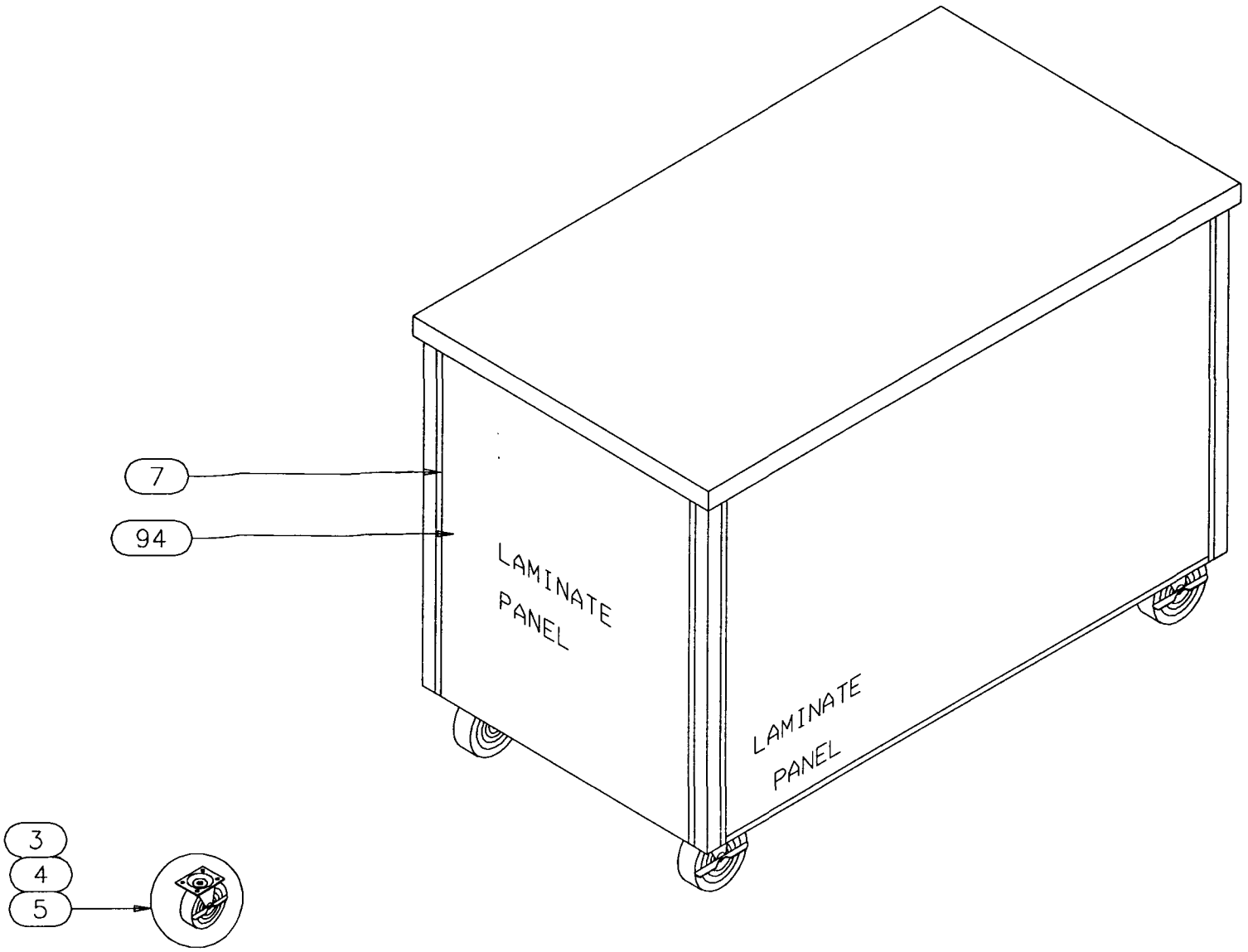


MODEL RANSERVE SERIES
COUNTER PROTECTOR

RANSERVE SERIES S/S
WORKTOP



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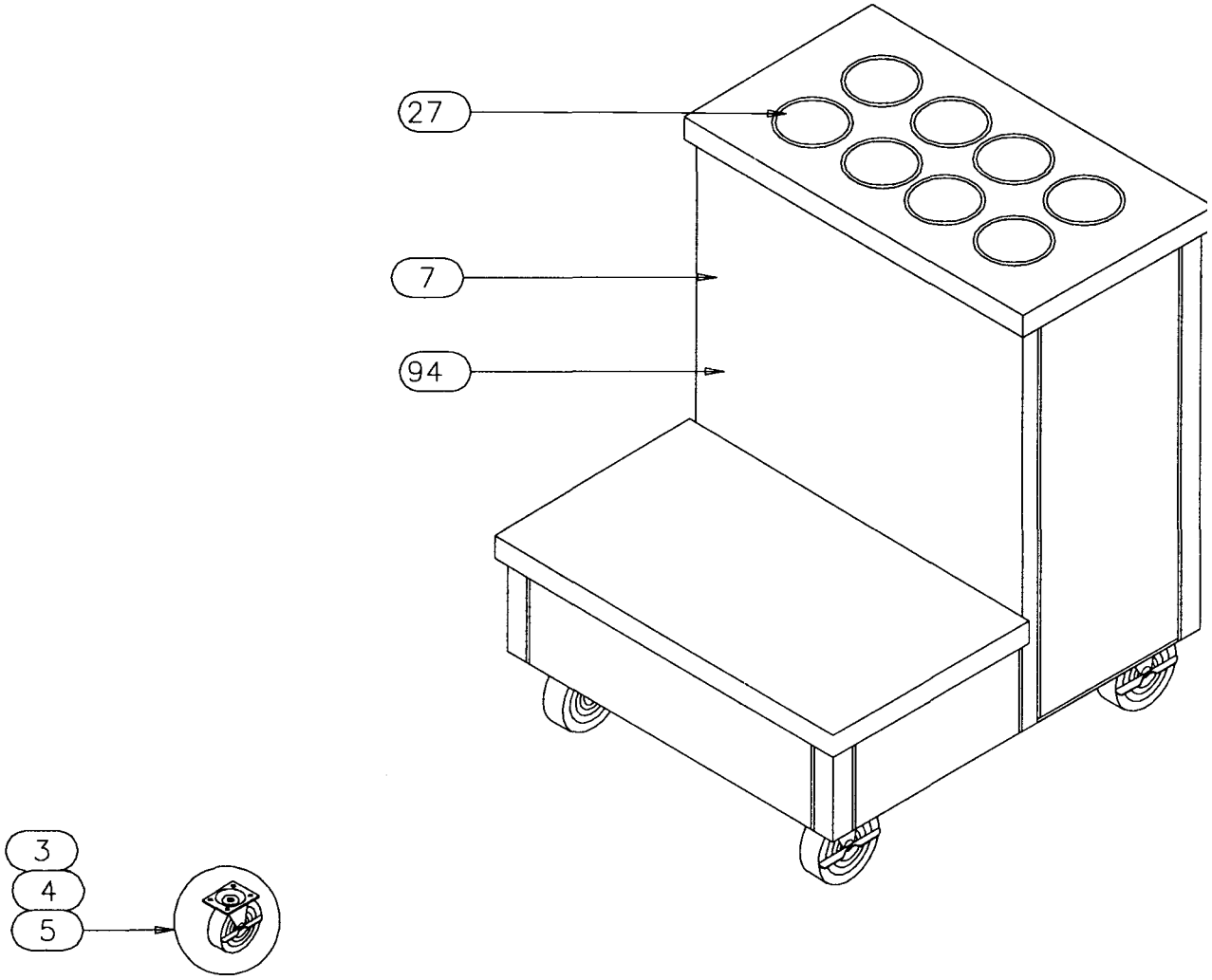
RANSERVE SERIES TRAY & SILVERWARE STAND



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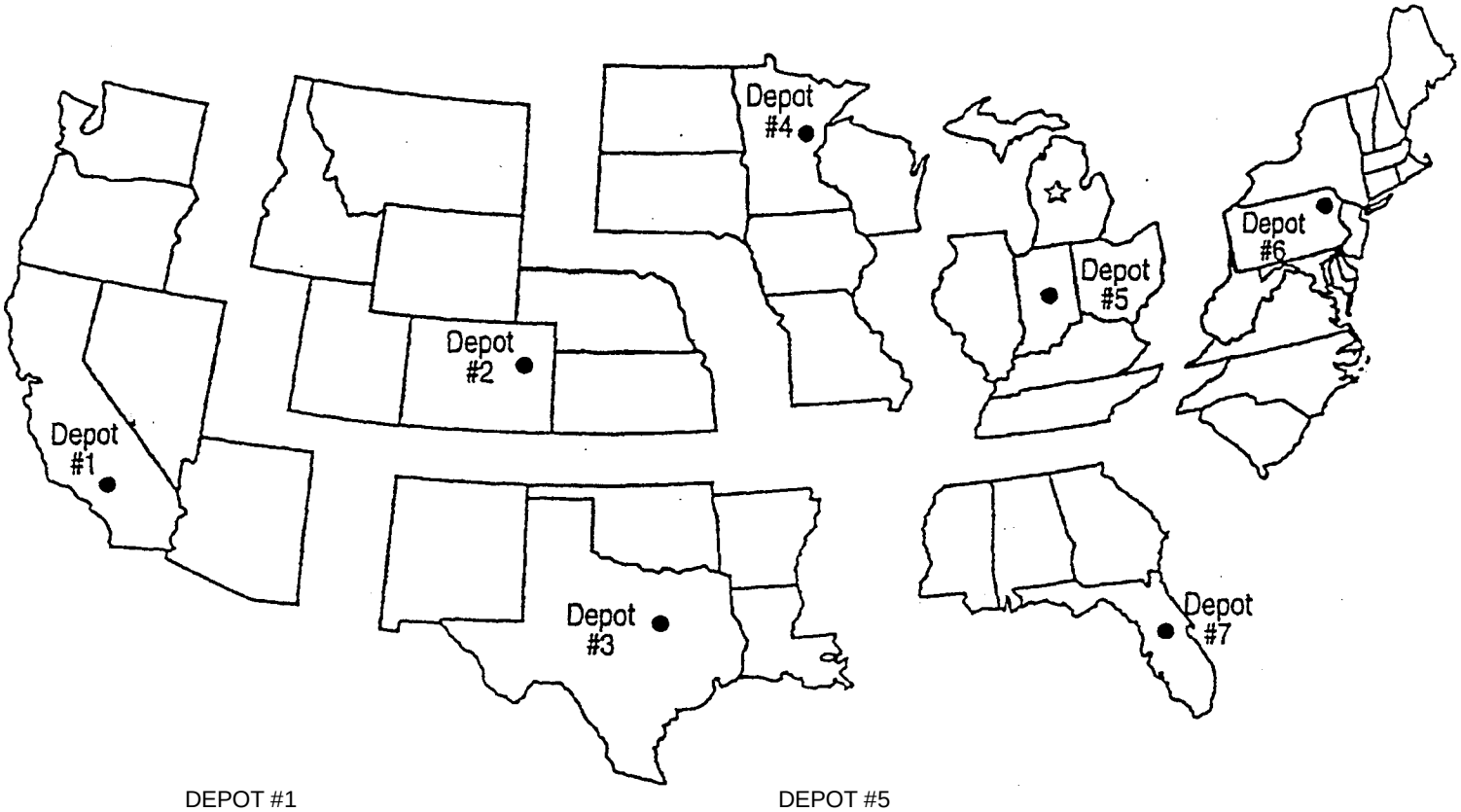
Randell Manufacturing, Inc.

Authorized Parts Distributors



DEPOT #1
CASE PARTS CO.
877 Monterey Pass Road
Monterey Park, CA 91754 1-800-621-7884
(CA ONLY) 1-800-421-0271

DEPOT #2
REFRIGERATION HARDWARE SUPPLY
632 Foresight Circle
Grand Junction, CO 81505 1-800-423-2446
1-800-537-8300 (PAC. COAST)

DEPOT #3
STOVE PARTS SUPPLY
2120 Solona St.
Ft.Worth, TX 76117-0009
1-800-433-1804

DEPOT #4 GENERAL PARTS 11311
Hampshire Ave. South Bloomington,
MN 55438 1-800-279-9980

DEPOT #5
COMMERCIAL PARTS
5310 E. 25th Street P.O. Box 18688
Indianapolis, IN 46218-0688
1-800-727-8710

DEPOT #6
HARRISON SUPPLY
Ridley Creek Plaza 5153 West Chester Pike
P.O. Box 596
Edgemont, PA 19028
1-800-521 -8444

DEPOT #7
WHITESIDE PARTS 722
Brookhaven Orlando, FL
32803 1-800-322-2678

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0520 S. Coldwater Road
Weidman, MI 48893
1-800-621 -8560

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